

REMARKS

In the non-final Office Action, the Examiner rejects claims 16 and 18 under 35 U.S.C. § 102(e) as anticipated by LEA (U.S. Patent No. 6,115,373); rejects claims 14, 15, 19, and 20 under 35 U.S.C. § 103(a) as unpatentable over LEA in view of DOSHI et al. (U.S. Patent No. 5,936,965), and further in view of "Newton's Telecom Dictionary," by Harry NEWTON, March 1998, pp. 663-664; and rejects claims 1-3, 6, 7, 11, and 13 under 35 U.S.C. § 103(a) as unpatentable over LEA, in view of DOSHI et al., and further in view of NEWTON and VOGEL (U.S. Patent No. 6,075,788). Applicant respectfully traverses these rejections. Claims 1-3, 6, 7, 11, 13-16, and 18-20 remain pending.

Claims 16 and 18 are rejected under 35 U.S.C. 102(e) as allegedly anticipated by LEA. Applicant respectfully traverses.

A proper rejection under 35 U.S.C. § 102 requires that the reference teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. See M.P.E.P. § 2131. Applicant submits that LEA does not disclose or suggest each of the features of Applicant's claims 16 and 18.

Applicant's claim 16 recites a device for directing both Internet Protocol (IP) packets containing address information identifying destinations and Asynchronous Transfer Mode (ATM) cells containing address information identifying destination toward their destinations. The device includes input ports for receiving streams of input data, output ports for outputting streams of data, and line cards for directing input data received at the input ports to the output ports. Each line card includes a device configured to identify IP packets and ATM cells in the streams of input data, an IP packet forwarding facility for directing the identified IP packets to the output ports based on the

address information contained in the IP packets, and an ATM cell forwarding facility for directing the identified ATM cells to the output ports based on the address information contained in the ATM cells. The device further includes a multiplexer positioned before a select one of the input ports to multiplex multiple data streams into a single input data stream. LEA does not disclose or suggest each of these features.

For example, LEA does not disclose or suggest a multiplexer positioned before a select one of the input ports to multiplex multiple data streams into a single input data stream, as recited in claim 16. With respect to this feature, the Examiner alleges "[s]ince the input/output processor in figure 8 receives 8 lines data input and output one data stream, the input/output processor is also a multiplexer (position at the input/output ports) for multiplexing multiple data streams into one data stream" (Office Action, pg. 3).

Applicant disagrees.

One skilled in the art would appreciate that a multiplexer is a communications device that multiplexes (i.e., combines) several signals for transmission over a single medium. Fig. 8 of LEA does not disclose or suggest a multiplexer. Instead, Fig. 8 of LEA discloses the basic structure of an input/output (I/O) processor. As illustrated in Fig. 8, the I/O processor includes a switch receiver (S_RCV) that received bits via an 8-bit bus (col. 4, lines 59-63, and col. 5, lines 2-4). Contrary to the Examiner's allegation, LEA does not disclose or suggest that the switch receiver (S_RCV) acts as a multiplexer, as that term is known in the art (i.e., LEA does not disclose or suggest that switch receiver (S_RCV) combines several signals for transmission over a single medium). If this position is maintained, Applicant requests that the Examiner specifically point out where in LEA it is disclosed that LEA's input/output processor is a multiplexer.

Since LEA does not disclose each feature of Applicant's claim 16, the rejection of claim 16 as anticipated by LEA is improper.

For at least the foregoing reasons, Applicant submits that claim 16 is not anticipated by LEA.

Claim 18 recites a device for directing both IP packets containing address information identifying destinations and ATM cells containing address information identifying destination toward their destinations. The device includes input ports for receiving streams of input data, output ports for outputting streams of data, and line cards for directing input data received at the input ports to the output ports. Each line card includes a device configured to identify IP packets and ATM cells in the streams of input data, an IP packet forwarding facility for directing the identified IP packets to the output ports based on the address information contained in the IP packets, and an ATM cell forwarding facility for directing the identified ATM cells to the output ports based on the address information contained in the ATM cells. The device further includes a multiplexer positioned at a selected one of the output ports to multiplex output data from multiple tributaries into a single output data stream. LEA does not disclose or suggest this combination of features.

For example, LEA does not disclose or suggest a multiplexer positioned at a selected one of the output ports to multiplex output data from multiple tributaries into a single output data stream, as recited in claim 18. With respect to this feature, the Examiner alleges "[s]ince the input/output processor in figure 8 receives 8 lines data input and output one data stream, the input/output processor is also a multiplexer (position at the input/output ports) for multiplexing multiple data streams into one data

stream" (Office Action, pg. 3). Applicant disagrees.

As set forth above, a multiplexer has a specific meaning in the art. Fig. 8 of LEA does not disclose or suggest a multiplexer. Instead, Fig. 8 of LEA discloses the basic structure of an input/output (I/O) processor. As illustrated in Fig. 8, the I/O processor includes a switch transmitter (S_TX) that transmits bits via an 8-bit bus (col. 4, lines 59-63, and col. 5, lines 2-4). Contrary to the Examiner's allegation, LEA does not disclose or suggest that the switch transmitter (S_TX) acts as a multiplexer, as that term is known in the art (i.e., LEA does not disclose or suggest that switch transmitter (S_TX) combines several signals for transmission over a single medium).

Since LEA does not disclose each feature of Applicant's claim 18, the rejection of claim 18 as anticipated by LEA is improper.

For at least the foregoing reasons, Applicant submits that claim 18 is not anticipated by LEA.

Claims 14, 15, 19, and 20 are rejected under 35 U.S.C. § 103(a) as unpatentable over LEA, in view of DOSHI et al., and further in view of NEWTON. Applicant respectfully traverses.

Claim 14 recites a device for directing both IP packets containing address information identifying destinations and ATM cells containing address information identifying destination toward their destinations. The device includes input ports for receiving streams of input data, where at least one of the streams of input data includes a non-ATM stream of input data, and where the non-ATM stream of input data includes an OC-48 data stream; output ports for outputting streams of data; line cards for directing input data received at the input ports to the output ports, where each line card includes a

device configured to identify IP packets and ATM cells in the streams of input data, an IP packet forwarding facility for directing the identified IP packets to the output ports based on the address information contained in the IP packets, and an ATM cell forwarding facility for directing the identified ATM cells to the output ports based on the address information contained in the ATM cells. LEA, DOSHI et al., and NEWTON, whether taken alone or in any reasonable combination, do not disclose or suggest the features of Applicant's claim 14.

For example, LEA, DOSHI et al., and NEWTON do not disclose or suggest input ports for receiving streams of input data, where at least one of the streams of input data includes a non-ATM stream of input data, and where the non-ATM stream of input data includes an OC-48 data stream. The Examiner admits that LEA does not disclose the recited input ports and relies on col. 3, lines 35-45, of DOSHI et al. for allegedly disclosing this feature (Office Action, pg. 3). Applicant submits that this section of DOSHI et al. does not disclose or suggest the above-identified feature of Applicant's claim 14.

Col. 3, lines 33-45, of DOSHI et al. discloses:

This support is provided between a transmitter and receiver over any one of a plurality of mediums, including but not limited to coaxial cable, wireless, optical fiber, hybrid fiber/coax, satellite, and twisted pair. The unit of bandwidth available to ABM PDUs may encompass the entire medium (e.g.--the complete wavelength of a fiber), or a channel created within the medium (e.g.--a portion of the available fiber bandwidth, or a portion of the bandwidth in OC-3 or OC-12). Despite the various modes, protocols, PDU lengths, and different quality of service (QOS) requirements, support is provided over a common bytestream with a common physical layer datalink in either a point-to-point or broadcast environment.

This section of DOSHI et al. discloses the ability to transport data between a transmitter

and a receiver over a number of mediums, including optical fiber. This section of DOSHI et al. does not disclose or suggest, however, input ports for receiving streams of input data, where at least one of the streams of input data includes a non-ATM stream of input data, and where the non-ATM stream of input data includes an OC-48 data stream, as required by Applicant's claim 14. In fact, this section of DOSHI et al. in no way discloses or suggests a non-ATM stream of input data that includes an OC-48 data stream. Since the Examiner has failed to point to any section of LEA, DOSHI et al., or NEWTON that discloses this feature, a *prima facie* case of obviousness has not been established with respect to claim 14.

Even assuming, for the sake of argument, that DOSHI et al. discloses the recited input ports, Applicant submits that one skilled in the art would not have been motivated to incorporate DOSHI et al.'s input ports into the LEA system, absent impermissible hindsight. With respect to motivation, the Examiner alleges "[a] skilled artisan would have been motivated to motivated to modify the interface (L-RCV) in Lea system so that it receives an OC data stream as the Doshi et al receiver in order to employ the benefit of the Doshi et al method, which is less overhead demand (Col. 2, line 1); wherein OC-48 (or any OC) is selected based on the need as taught by Newton" (Office Action, pg. 4). Applicant disagrees.

At the outset, Applicant notes that the section of the NEWTON dictionary relied on by the Examiner merely defines "SONET." Contrary to the Examiner's allegation, the NEWTON dictionary does not disclose a need for selecting an OC-48 SONET rate, but merely defines the line rate that corresponds to OC-48. Therefore, the Examiner's allegation that NEWTON teaches a need to select OC-48 is unfounded.

LEA does not disclose or suggest the link receiver (L_RCV) being capable of receiving a non-ATM stream of input data that includes an OC-48 data stream. Moreover, it is unclear as to how including such a capability into the LEA system would in any way create a lesser demand on overhead. Applicant submits that the Examiner's allegation to this effect is merely conclusory.

The Examiner relies on col. 2, line 1, of DOSHI et al. for allegedly providing the motivation necessary to lead one skilled in the art to incorporate DOSHI et al.'s alleged teaching of input ports for receiving streams of input data, where at least one of the streams of input data includes a non-ATM stream of input data, and where the non-ATM stream of input data includes an OC-48 data stream into the LEA system. Col. 1, line 66, to col. 2, line 2, of DOSHI et al. discloses "Therefore, what is needed is a system or network which gracefully transmits various PDU types over a single link while minimizing the overhead demanded in exchange for system flexibility." This section of DOSHI et al. in no way supports the Examiner's allegation that incorporating DOSHI et al.'s alleged teaching of input ports for receiving streams of input data, where at least one of the streams of input data includes a non-ATM stream of input data, and where the non-ATM stream of input data includes an OC-48 data stream into the LEA system would lead to lesser demand in overhead.

Applicant submits that the Examiner's motivation to combine DOSHI et al. and LEA was impermissibly gleaned from Applicant's own disclosure. As such, a *prima facie* case of obviousness has not been established with respect to claim 14.

For at least the foregoing reasons, Applicant submits that claim 14 is patentable over LEA, DOSHI et al., and NEWTON, whether taken alone or in any reasonable

combination.

Claims 15, 19, and 20 depend from claim 14. Accordingly, Applicant submits that these claims are patentable over LEA, DOSHI et al., and NEWTON, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 14. Moreover, these claims recite additional features not disclosed or suggested by LEA, DOSHI et al., or NEWTON.

For example, claims 19 and 20 recite that the IP packet forwarding facility and the ATM cell forwarding facility are each part of an application specific integrated circuit (ASIC). With respect to these features, the Examiner alleges that "Lea discloses the device is a chip (Col. 3, lines 49-52), and it is inherent that device comprises a housing that house the forwarding facilities" (Office Action, pg. 4). Applicant disagrees.

Col. 3, lines 49-52, of LEA discloses:

As will be described in more detail below, the input and output port processors are in fact co-located inside a single chip (FIG. 7) in order to provide a folded switch having advantages for multicast implementation.

This section of LEA discloses that the input and output port processors are located inside a single chip. This section of LEA in no way discloses or suggests that the input port and output port are each part of an ASIC. As one skilled in the art would readily appreciate, an ASIC is a chip that is designed for a specific application. LEA does not disclose or suggest an ASIC, let alone each of the input and output processors being part of an ASIC.

The Examiner's allegation regarding the inherency of housing in the LEA device does not address the specific features recited in Applicant's claims 19 and 20. Put another way, Applicant's claims 19 and 20 do not recite "housing." Therefore, the Examiner's allegation that it is inherent that LEA's device comprises a housing that house

the forwarding facilities in no way addresses the specific features of Applicant's claims 19 and 20.

For at least these additional reasons, Applicant submits that claims 19 and 20 are patentable over LEA, DOSHI et al., and NEWTON, whether taken alone or in any reasonable combination.

Claims 1-3, 6, 7, 11, and 13 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over LEA in view of DOSHI et al., and in further view of NEWTON and VOGEL. Applicant respectfully traverses this rejection.

Claim 1 recites a device for directing data toward destinations. The device includes an input interface configured to receive a non-ATM data stream from a single port, where the non-ATM data stream includes synchronous optical network (SONET) frames, identify ATM cells and IP packets within the non-ATM data stream, and forward the ATM cells and IP packets; a SONET deframer configured to deframe the SONET frames in the non-ATM data stream; an IP packet forwarding facility configured to receive IP packets from the input interface, and forward the IP packets toward their destinations; and an ATM cell switching facility configured to receive ATM cells from the input interface, and switch the ATM cells toward their destinations. LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination, do not disclose or suggest these features of claim 1.

For example, LEA, DOSHI et al., NEWTON, and VOGEL do not disclose or suggest a SONET deframer that is configured to deframe the SONET frames in a non-ATM data stream that includes ATM cells and IP packets. The Examiner admits that LEA, DOSHI et al., and NEWTON do not disclose the recited SONET deframer and

relies on element 46 in Fig. 3 of VOGEL for allegedly disclosing the recited SONET deframer (Office Action, pg. 4). Applicant respectfully disagrees.

Element 46 in Fig. 3 of VOGEL corresponds to a SONET framer. VOGEL discloses that SONET framer 46 receives a SONET frame from line interface block 48, extracts a point-to-point protocol (PPP) frame from the synchronous payload envelope (SPE) field of the SONET frame, and passes the PPP frame to PPP processing block 44 (col. 7, lines 28-31). VOGEL does not disclose or suggest that the data stream from which SONET framer 46 receives the SONET frame is one that includes ATM cells and IP packets, as required by Applicant's claim 1. Therefore, VOGEL's SONET framer 46 cannot be reasonably construed to correspond to the SONET deframer recited in Applicant's claim 1.

Even assuming, for the sake of argument, that VOGEL's SONET framer 46 can be reasonably construed to correspond to the SONET deframer recited in Applicant's claim 1, Applicant submits that one skilled in the art would not have been motivated to incorporate VOGEL's SONET framer 46 into the LEA system, absent impermissible hindsight. With respect to motivation, the Examiner alleges "[a] skilled artisan would have been motivated to add a SONET deframer as taught by Vogue to Lea device modified by Doshi et al, and Newton in order to employ the benefit of Doshi et al" (Office Action, pg. 4). Applicant disagrees.

As set forth above, the disclosure of DOSHI et al. does not disclose or suggest why one skilled in the art would seek to incorporate an input interface that is configured to receive a non-ATM data stream that includes SONET frames from a single port into the LEA system. LEA does not disclose or suggest a desire to receive a non-ATM data

stream that includes SONET frames. LEA does not further disclose or suggest a SONET deframer that is configured to deframe SONET frames in a non-ATM data stream.

Applicant submits that the Examiner has failed to provide any motivation as to why one skilled in the art would be motivated to incorporate VOGEL's SONET framer 46 into the LEA system. Contrary to the Examiner's allegation, the disclosure of DOSHI et al. does not provide any motivation as to why one skilled in the art would seek to incorporate VOGEL's framer 46 into the LEA system. Therefore, a *prima facie* case of obviousness has not been established with respect to claim 1.

For at least the foregoing reasons, Applicant submits that claim 1 is patentable over LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination.

Claims 2, 3, 6, and 7 depend from claim 1. Accordingly, Applicant submits that these claims are patentable over LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1. Moreover, these claims recite additional features not disclosed or suggested by LEA, DOSHI et al., NEWTON, or VOGEL.

For example, claim 3 recites a feature similar to those described above with respect to claims 19 and 20. The disclosure of VOGEL does not remedy the deficiencies in the disclosures of LEA, DOSHI et al., and NEWTON given above with respect to claims 19 and 20. Accordingly, Applicant submits that claim 3 is patentable over LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination, for reasons similar to those given above with respect to claims 19 and 20.

Independent claim 11 recites features similar to those given above with respect to

claim 1. Therefore, Applicant submit that claim 11 is patentable over LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination, for reasons similar to those given above with respect to claim 1.

Claim 13 depends from claim 11. Therefore, Applicant submits that claim 13 is patentable over LEA, DOSHI et al., NEWTON, and VOGEL, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 11.

In view of the foregoing remarks, Applicant respectfully requests the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectively submitted,

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